

What is claimed is:

1. A method of starting a methanol reforming apparatus that generates a hydrogen-rich gas by reacting a mixed gas of water, methanol and air on a catalyst, which comprises:
controlling the amounts to be introduced so that the molar ratio of water/methanol is 4.6 or higher and/or the molar ratio of air/methanol is 1.5 or lower.
- 10 2. A method of starting a methanol reforming apparatus according to claim 1, wherein a mixed water-methanol gas is introduced simultaneously with or after the introduction of air.
- 15 3. A method of starting a methanol reforming apparatus according to claim 1 or 2, wherein the amounts to be introduced are controlled so that the molar ratio of water/methanol falls within a range of 1.0-2.0 at a time when the concentration of air at the inlet of the catalyst has
20 decreased to 50% by mole or lower.
4. An apparatus for feeding a fuel to a methanol reforming apparatus that generates a hydrogen-rich gas by reacting a mixed gas of water, methanol and air on a catalyst,
25 comprising:
a mixed water-methanol solution tank wherein the molar ratio of water/methanol is controlled to a predetermined value

for use in reforming;

a mixed water-methanol solution tank wherein the molar ratio of water/methanol is controlled to 4.6 or higher; and
a switching means that switches the mixed water-methanol
5 solution tanks used as a fuel source according to the conditions of operation of the methanol reforming apparatus.

5. A method of stopping a methanol reforming apparatus that generates a hydrogen-rich gas by reacting a mixed gas of
10 water, methanol and air on a catalyst, which comprises:

stopping the introduction of air, changing the molar ratio of water/methanol to a value higher than that of steady operation, and stopping the introduction of water and methanol.

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6. A method of stopping a methanol reforming apparatus according to claim 5, wherein the molar ratio is set to 4.6 or higher.

20 7. A method of stopping a methanol reforming apparatus that generates a hydrogen-rich gas by reacting a mixed gas of water, methanol and air on a catalyst, which comprises:

stopping the introduction of air to thereby lower the catalyst temperature through a steam reforming reaction,
25 stopping the introduction of water and methanol while the catalyst is still hotter than 100°C, and adjusting the methanol concentration to 18% by mole or lower.

8. A method of stopping a methanol reforming apparatus according to claim 7, wherein air is introduced again after bringing the methanol concentration to 18% by mole or lower,
5 then remaining water and methanol are evaporated and removed by means of the oxidization heat of the catalyst.

9. A method of stopping a methanol reforming apparatus according to claim 8, wherein air at a temperature of 100°C or
10 lower is introduced after removing water and methanol by evaporation, and then the catalyst is cooled down and the gas is purged.